

of said switches comprises three of said conductive elements, said touch-button being mounted on one side of said substrate and the other two of said three elements being mounted on the opposite side of said substrate, thereby to form the circuit equivalent of a capacitive T attenuator circuit which circuit is completed by the operation of the corresponding one of said touch-buttons, said attenuator controlling the application of signal energy from said oscillator to said detector circuit.

4. Apparatus in accordance with claim 2 wherein each of said switches includes only a single respective one of said conductive elements, each serving as one of said touch-buttons and each being mounted on the same side of said substrate.

5. Apparatus in accordance with claim 4 wherein a capacitive conducting circuit path controlling the application of the output of said oscillator to said detector circuit is completed by the operation of one of said switches.

6. A direct station selection telephone set comprising, in combination, a plurality of groups of proximity switches, each of said switches in each of said groups comprising at least one conductive element mounted on a respective one of a plurality of substrate members each being common to all of said switches in a particular one of said groups, one of said elements in each of said switches comprising a respective touch-button, means for detecting the operation of one of said touch-buttons, and means responsive to said detecting means for initiating the automatic transmission of signal indicia associated with a distant station corresponding to an operated one of said touch-buttons.

7. Apparatus in accordance with claim 6 wherein said set includes a housing with a face portion, said substrate members being mounted in book-fashion on said face portion thereby to permit ready visual and manual access to successive ones of said groups of switches by pivotally turning successive ones of said substrate members as in turning the pages of a book.

8. Apparatus in accordance with claim 6 wherein said set includes a housing member with a drawer-type container slidably mounted therein, said substrate members being filed in card file fashion in said container, thereby to permit ready manual and visual access to any selected one of said groups of switches.

9. A direct station selection telephone set comprising, in combination, a telephone set housing, a plurality of proximity switches, each of said switches comprising at least one conductive element mounted on a common flexible substrate sheet, one of said elements in each of said switches comprising a touch-button, means for storing said sheet substantially within said housing in scroll form, said housing having an opening therein providing visual and manual access to a portion of said sheet, means for selectively positioning said sheet, means for detecting the operation of one of said touch-buttons, and means responsive to said detecting means for initiating the automatic transmission of signal indicia representative of a distant station corresponding to an operated one of said touch-buttons.

10. A direct station selection telephone set comprising, in combination, a plurality of proximity switches, each of said switches including a conductive touch-button,

a plurality of said touch-buttons being mounted on a common substrate, means for detecting the touch-operation of one of said switches, and means responsive to said detecting means for initiating the establishment of a communication path between said set and a distant station corresponding to the touch-operated one of said touch-buttons.

11. Apparatus in accordance with claim 10 wherein said detecting means includes an oscillator and a detector circuit, means for energizing said oscillator, a conductive path for applying output signals from said oscillator to said detector circuit, the touch-operation of one of said touch-buttons establishing a capacitive shunt path from said conductive path to a point of fixed reference potential, thereby sharply attenuating the transmission of signals from said oscillator to said detector, said detector circuit being responsive to the reduced signal input level effected by said attenuating.

12. Apparatus in accordance with claim 10 wherein said detecting means includes an oscillator and a detector circuit, said oscillator being connected between said detector and a point of fixed reference potential, means connecting said detector circuit to one of said touch-buttons, whereby the touch-operation of said last named touch-button completes a capacitive path from said last named touch-button to said point of fixed reference potential thus establishing a complete circuit path permitting the transmission of the output signal of said oscillator to said detector.

13. Apparatus in accordance with claim 12 including a first capacitive element connected between said oscillator and said point and wherein said connecting means comprises a second capacitive element.

14. A direct station selection telephone set comprising, in combination, a plurality of proximity switches each comprising only a single conductive touch-button mounted on a common nonconductive substrate sheet, a single oscillator, a plurality of detector circuits each corresponding to a respective one of said touch-buttons, the touch-operation of one of said touch-buttons completing a capacitive path to earth ground thereby establishing a complete circuit enabling the transmission of the output signal from said oscillator to that one of said detector circuits corresponding to the operated one of said touch-buttons, and means responsive to the detection of said output signal by one of said detector circuits for initiating the establishment of a communication path between said set and a distant station corresponding to said operated touch-button.

References Cited

UNITED STATES PATENTS

3,419,697 12/1968 Gove.
3,428,758 2/1969 Hall.

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